

Serial No.: 09/647,518
Group Art Unit No.: 1641



wherein, n is 1-50, A is a bond or $-\text{C}(\text{O})-$, R is C_{1-50} alkyl or Phenyl C_{1-50} alkyl.

39. A method of raising an immune response as claimed in Claim 38,
wherein the surfactant of formula (I) is haemolytic.

40. A method of raising an immune response as claimed in Claim 38,
wherein the adjuvant composition is characterized in that the surfactant of formula (I) is not in
the form of a vesicle and also in that the degree of haemolytic activity is in the range of 0.05-
0.0001% as measured in the Guinea Pig blood haemolysis assay.

41. A method of raising an immune response as claimed in Claim 39, wherein the
surfactant of formula (I) has a haemolytic activity within a ten fold difference to that of
polyoxyethylene-9 lauryl ether or polyoxyethylene-8 stearyl ether, as measured in the Guinea
Pig blood haemolysis assay.

42. A method of raising an immune response as claimed in any one of the Claims
38 and 39-41, using an adjuvant that is a surfactant of formula (I), wherein n is 4 to 24.

43. A method of raising an immune response as claimed in Claim 38, wherein the
adjuvant that is a surfactant of formula (I), wherein R is C_{8-20} alkyl or Phenyl C_{8-20} alkyl.

44. A method of raising an immune response as claimed in Claim 39, wherein the
adjuvant that is a surfactant of formula (I), wherein R is C_{8-20} alkyl or Phenyl C_{8-20} alkyl.

45. A method of raising an immune response as claimed in Claim 40, wherein the
adjuvant that is a surfactant of formula (I), wherein R is C_{8-20} alkyl or Phenyl C_{8-20} alkyl.

46. A method of raising an immune response as claimed in Claim 41, wherein the
adjuvant that is a surfactant of formula (I), wherein R is C_{8-20} alkyl or Phenyl C_{8-20} alkyl.

Serial No.: 09/647,518
Group Art Unit No.: 1641

47. A method of raising an immune response as claimed in Claim 42, wherein the adjuvant that is a surfactant of formula (I), wherein R is C₈₋₂₀ alkyl or Phenyl C₈₋₂₀ alkyl.

48. A method of raising an immune response as claimed in Claim 38 wherein n is 9, A is a bond or -C(O)-, R is C₁₋₅₀ alkyl or Phenyl C₁₋₅₀ alkyl and is characterized in that the surfactant of formula (I) is not in the form of a vesicle.

49. A method of raising an immune response as claimed in Claims 43 or 44, wherein R is C₁₂ alkyl.

50. A method of raising an immune response as claimed in Claims 43, wherein R is C₁₂ alkyl.

51. A method of raising an immune response as claimed in Claim 38 wherein n is 8, A is a bond or -C(O)-, R is C₁₋₅₀ alkyl or Phenyl C₁₋₅₀ alkyl and is characterized in that the surfactant of formula (I) is not in the form of a vesicle.

52. A method of raising an immune response as claimed in Claim 46, wherein R is C₁₈ alkyl.

53. A method of raising an immune response as claimed in Claim 38, comprising a surfactant of formula (I), wherein A is a bond, thereby forming an ether.

54. A method of raising an immune response as claimed in Claim 38 comprising a surfactant of formula (I), wherein A is -C(O)-, thereby forming an ester.

55. A method of raising an immune response as claimed in Claim 38, wherein the polyoxyethylene ether or ester of formula (I) is selected from a group consisting of: polyoxyethylene 9-lauryl ether, polyoxyethylene-9-lauryl ester, polyoxyethylene-9-stearyl ether, polyoxyethylene-8-stearyl ether, polyoxyethylene-4-lauryl ether, polyoxyethylene-35-lauryl ether and polyoxyethylene-23-lauryl ether.

Serial No.: 09/647,518
Group Art Unit No.: 1641

56. A method of raising an immune response as claimed in Claim 38, wherein the concentration of the surfactant is in the range of 0.1-10%.

57. A method of raising an immune response as claimed in Claim 38, wherein the concentration of the surfactant is in the range of 0.25-1%.

58. A method of raising an immune response as claimed in Claim 38, further comprising an antigen or antigenic composition.

59. A method of raising an immune response as claimed in Claim 38, wherein the antigen or antigen composition is derived from the group consisting of: Human Immunodeficiency Virus, Varicella Zoster virus, Herpes Simplex Virus type 1, Herpes Simplex virus type 2, Human cytomegalovirus, Dengue virus, Hepatitis A, B, C or E, Respiratory syncytial virus, human papilloma virus, Influenza virus, Hib, Meningitis virus, Salmonella, Neisseria, Borrelia, Chlamydia, Bordetella, Streptococcus, Mycoplasma, Mycobacteria, Haemophilus, Plasmodium or Toxoplasma, IgE peptides such as the stanworth decapeptide and Tumor associated antigen (TMA) such as MAGE, BAGE, GAGE, MUC-1, Her-2 neu, LnRH, CEA, PSA, KSA, or PRAME.

60. A method of raising an immune response as claimed in Claim 38, wherein the vaccine comprises polyoxyethylene-9 lauryl ether and an influenza virus antigen.

61. A method of raising an immune response as claimed in Claim 38, wherein the vaccine is in the form of an aerosol or a spray.

62. A spray device, more particularly a bi-dose spray device, filled with a vaccine suitable for use in the method of raising an immune response as claimed in Claim 38.

63. A method of treatment, using the method of Claim 38, of a mammal suffering from or susceptible to a group of diseases consisting of: a pathogenic infection, cancer and allergy, comprising the intranasal administration of a safe and effective amount of a vaccine composition according to Claims 58-61.